

INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)



Applicant's or agent's file reference AMS.P52519WO		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/GB 03/04364	International filing date (day/month/year) 07.10.2003	Priority date (day/month/year) 07.10.2002
International Patent Classification (IPC) or both national classification and IPC G01V1/28		
Applicant WESTERNGECO SEISMIC HOLDINGS LIMITED et al.		

- This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
- This REPORT consists of a total of 5 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of sheets.

- This report contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application

Date of submission of the demand 15.04.2004	Date of completion of this report 29.03.2005
Name and mailing address of the International preliminary examining authority:  European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer Modesto, C Telephone No. +31 70 340-1055 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/04364

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-19 as originally filed

Claims, Numbers

1-22 as originally filed

Drawings, Sheets

1/6-6/6 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/GB 03/04364

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	
	No: Claims	1,17,18
Inventive step (IS)	Yes: Claims	
	No: Claims	2-16,19-22
Industrial applicability (IA)	Yes: Claims	1-22
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement.

1 Reference is made to the following documents:

D1: WO 02/059647

D2: WO 02/46792 A

D3: US-A-5 229 939

2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT.

The document D1 discloses (the references in parentheses applying to this document):

A method of processing seismic data, the method comprising:

- a) identifying the value of a first parameter associated with an event in a first set of seismic data (page 8, lines 20 - 26);
- b) obtaining, using at least one look-up table, the value of a second parameter, the second parameter being associated with a corresponding event in a second set of seismic data (page 8, lines 20 - 26).

Hence, claim 1 lacks novelty.

2.1 It is noted that in D1 discloses various ways of determining the velocities (or arrival times) for both P and S waves or PP and PS waves. D1 clearly teaches the use of, what is called a time delay dt , in order to obtain a second parameter (e.g. S or PS arrivals) from a first parameter (P or PP arrivals), using a "look-up table" or (in the case of D1) the equivalent delay time dt .

2.1.1 The expression "look-up table" is not clear and it does not contain any relevant technical character (Article 84 EPC). Any value that might establish a relation between two or more parameters, can be interpreted as a table (in this case with a single value). Therefore, the expression "look-up table" does not have any technical significance *per se*. Moreover, the use of tables is extremely well known

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/GB 03/04364

in the art of data processing (see e.g. the cited passages in the search report of D3). Also, table 1 on page 12 of D1 could also be considered as being a "look up table".

- 3 It appears that the additional features of claim 17 over claim 1 relate to the determination of two look up tables using a predetermined model for the velocity of propagation of seismic energy within the earth. Since the aforementioned table 1 on page 12 of D1 also appears to have been obtained from a synthetic seismogram, claim 17 also lacks novelty according to Article 33(2) PCT.
- 4 Since claim 17 is the apparatus claim that corresponds to claim 1 and, since it does not appear to contain any additional features over said claim, it also lacks novelty according to Article 33(2) PCT. The reasons being the same as those for claim 1.
- 5 The dependent claims do not appear to contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of novelty or inventive step.
- 6 Although claims 1 and 17 have been drafted as separate independent claims, they appear to relate effectively to the same subject-matter and to differ from each other only with regard to the definition of the subject-matter for which protection is sought or in respect of the terminology used for the features of that subject-matter. The aforementioned claims therefore lack conciseness and as such do not meet the requirements of Article 6 PCT.